Generation of *energy* from renewable sources

2070. SHR5 V. HANUMANTHA RAO:
SHRI IQBAL SINGH:

Will the PRIME MINISTER be pleased to state;

(a) whether Government propose to evolve a massive sch«me for the generation of energy from all renewable sources;

(.b) whether there is any proposal to increase the target set for power generation from non-conventional energy sources during the Eighth Five Year Plan;

(c) if so, the details of the new tar gets proposed in the Eighth Five Year Plan;

(d) whether Government have received any financial assistance from international financial institutions; and

(e) whether any energy renewable programme has been launched in M.P., if so, the details thereof?

THE MINISTER OF STATE IN THE MINISTRY OF NON-CONVENTIONAL ENERGY SOURCES (SHRI S. KRISHNA KUMAR): (a) to (c) Yes, Sir. The Government has evolved a scheme for the generation of energy from various renewable energy sources during the Eighth Five Year Plan-It is proposed to take up power generation projects of about 300 MW aggregate capacity based on wind energy, small hydro and solar energy; including private sector project The programme-wise targets for the Eighth Five Year Plan are given at Statement. I (See below)

The Govt, may consider increasing the target for the Eighth Five Year Plan for power generation depending on the progress made in completion of the set targets, extent of genera, tion of viable non-conventional energy power projects and availability of various resources.

(d) In addition to budgetary support, efforts have been made by the Government to mobilise resources from the World Bank and other bilateral agencies. It has been possible to veceive commitment to the tune of US $145 million for exploiting the potential in small hydro, wind energy and solar photovoltaics for the "Renewable Resources Development, Project". The World Bank (International Development Agency), Global Environment Facility (GEF) and the Government of Switzerland are participating in the financing of this pro Jeet. In addition, Danish Government (DAMDA) assistance for the project is also under consideration.

Through the assistance likely to be received under the above project and to be on lent to private entrepreneu-res and other throught Indian Renewable Energy Development Agency (IREDA) it is envisaged to add an aggregated capacity each of 100 MW through small hydro projects, 85 MW through wind farms and 2.5 MW through solar photovoltaic systems.

In addition Government of Netherlands have already given grant-in-aid amounting to 17 million Guilders towards financing of the technologies including small hydro, wind energy etc. The Dutch Government has also expressed interest for further grant of 23 million Guilders for exploiting NRSE technologies.

(e) Yes, Sir. Non-conventional and renewable energy programmes have been launched in the State of Madhya Pradesh. The programmes are being implemented through State Government and State Nodal Agencies besides autonomous institutions and research organisations. Installation of non-conventional energy projects to be taken up by the State of Madhya Pradesh during the year 1992-93 is given at Statement-Il. *(See* below) Status of implementation of non-conventional energy systems and devices in the

State is given at Statement-IH. (See beloiu)

Statement-I

Eighth five year plan (J992—97): Financial outlays and physical targets

Sl.No.	Programmes	Approved Outlays (Rs. in Crores)	Tentative Physical Targets
1	2	3	4
1	Biogas Development Programme	320.00	
	a. Family Size Plants		7.50 lakh Nos.
	b. CBP/IBP/NBP		450 Nos.
2	Improved Chulha Programme	80.00	100 lakh Nos.
3	Solar Thermal Programme	80.00	
	a. Solar Thermal Energy Systems		2.75 lakh m2 Coll Area
	b. Solar Cookers		3.00 lakh Nos.
4	Solar Photovoltaic Programme	90.00	
	a. SPV Lighting Systems		25,000 Nos.
	b. SPV Water Pumrs		600 Nos.
	c. Other SPV Systems		1720 KW
5	Wind Energy Programme	90.00	
	a. Wind Pumps		4000 Nos.*
	b. Wind Battery Chargers		500 Nos.
	c. Wind Power		100 MW *
6	Urjagram (Surveys)	1.00	
7	Biomass Development Programme	15.00@	
8	Human and Animal Energy Programme	1.00	
9	Bioenergy Development Progremme	20.00	300 MW*
10	Small Hydel Power Development Programme	100.00	200 MW *
11	Alternate Fuels for Surface Transportation	10.00	

1	2	3	4
12	Magneto Hydro Dynamics		
13	Geo-thermal Energy		
14	Chemical Sources of Energy		10.00
15	Ocean Energy		
16	Hydrogen Energy		
17	Indian Renewable Energy Development Agency Ltd.		10.00
18	Regional Offices etc		
19	Information & Publicity		
20	Seminars/Conferences		10.00
21	International Cooperation		
22	Data Bank/TIFAC		
23	Solar Energy Centre		15.00
24	Special Area Programmes & Demonstration Activities.		5.00
	TOTAL:		857.00

@Includes Biomass Gasifiers.

*Includes Private Sector.

Statement-II

Installation of non-conventional energy systems & devices proposed to be taken up by the State ot Madhya Pradesh during the year 1992-93.

S.No.	Systems/Devices	Proposed physical targets
1	Family type biogas plant	4,000 Nos.
2	Improved Chulha	1.40 lakh
3	Solar Water heating Systems (Litres per day)	1.25 lakh
4	Solar Cookers	12,000 Nos.
5	Solar photovoltaic street lights	50 Nos.
6	Kuteer Deep (portable solar photovoltaic lamp)	700 Nos.
7	Photovoltaic power unit	1 No. (6 KWp)
8	Wind Pumps	25 Nos.
9	Urjagram	20 villages.

Statement-III

Status of achievements of installation of various types of renewable energy systems and devices in Madhya Pradesh.

Sl.No.	Programme	Units	Cumulative Achievement upto 31-3-92
1	Family Size Biogas Plants	Nos. in 000	46.70
2	Community/Institutional Biogas Plants	Nos.	75
3	Improved Chulhas	Nos. in lakh	10.09
4	Industrial Solar water Heating Systems	Ltrs. per day in lakh	13.15
5	Domestic Solar Water Heaters	Nos.	50
6	Solar Stills	Nos.	150
7	Solar Dryers.	Nos.	2
8	Solar Timber Kiln	No.	1
9	Solar Cooker	Nos. in 000	71.98
10	Villages provided with photovoltaic street lights	Nos. (approx.)	827
11	Photovoltaic Water Pumps	Nos. (approx.)	90
12	Photovoltaic Community TV/Lighting Systems	Nos. (approx.)	64
13	Photovoltaic Domestic Lights (fixed & Portable)	Nos.	336
14	Wind Pumps	Nos.	167
15	Wind Farms	MW.	0.64
16	Wind Battery Chargers.	KW	4
17	Mini-Micro Hydro	MW	1.20
18	Urjagram Projects	Nos.	20
19	Urjagram Energys Surkeys	Nos.	136
20	Biomass Energy Plantations	Hectares	119
21	Biomass Gasifiers	Nos.	101

Exploration of Ocean near Dwarka

2071. DR. SHRIKANT RAMCHAN-DRA JICHKAR; Will the PRIME MINISTER be pleased to state:

(a) what is the progress made so far regarding the excavation and exploration of the ocean near Dwarka being undertaken under the supervision of Dr. S. R. Bao;

(b) the total amount spent on this project uptill now; and

(c) by when an official report ab. out it is likely to be published?

THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY DEPARTMENT OF ELECTRONICS AND DEPARTMENT OF OCEAN DEVELOPMENT AND THE MINISTER OF STATE IN THE MINISTRY OF PARLIAMENTARY AFFAIRS (SHRI P. R. KUMARAMANGALAM). (a) Fur. ther underwater exploration of Dwarka in 8 different zones has revealed structures such as Fortwalls, Bastions, Stone Anchors and Flag-posts in addition to similar structures discovered in 4 sectors during previous excavations.